ABSTRACT

This invention relates generally to the field of plant molecular biology. More specifically, this invention relates to methods and reagents for the temporally- and/or spatially-regulated expression of genes that affect metabolically effective levels of cytokinins in plants, particularly in plant seeds and related female reproductive tissue. This invention further relates to transgenic plants having enhanced levels of cytokinin expression wherein the transgenic plant exhibits useful characteristics, such as improved seed size, decreased tip kernel abortion, increased seed set during unfavorable environmental conditions, or stability of yield. The present invention also provides compositions and methods for regulating expression of heterologous nucleotide sequences in a plant. Compositions comprise novel nucleotide sequences for seed-preferred promoters known as *eep1* and *eep2*. A method for expressing a heterologous nucleotide sequence in a plant using the promoter sequences disclosed herein is provided. The method comprises transforming a plant cell to comprise a heterologous nucleotide sequence operably linked to one of the promoters of the present invention and regenerating a stably transformed plant from the transformed plant cell.